Claims

1. Measuring-device module for a measuring device, wherein the measuring-device module (35, 36) comprises a plug-in contact element (55, 56) for the electrical connection of a plug-and-socket panel (11) of the measuring device (1) provided for data transfer,
characterised in that
the measuring-device module (35, 36) comprises a main printed-circuit board (70) disposed in a first printed-circuit-board space (80), the first printed-circuit-board space (80) being formed by at least one first frame element (67), which encloses the printed-circuit board (70) around its external periphery (71) in an essentially enclosed manner.

2. Measuring-device module according to claim 1,
characterised in that
a second frame element (68) can be connected to the first frame element (67) to form a base frame.

3. Measuring-device module according to claim 2,
characterised in that
the printed-circuit board (70) is mounted between the two frame elements (67, 68) of the base frame.

4. Measuring-device module according to claims 1 to 3,
characterised in that
the plug-in contact element (55, 56) is designed as a part of a the main printed-circuit board (70), which projects beyond the external periphery of the first frame element (67) or of the base frame

through a recess in the first or the second frame element (67, 68).

5. Measuring-device module according to any one of claims 1 to 4,
characterised in that
the first frame element (67) and/or the base frame is open at least in the direction of one surface of the main printed-circuit board (70).

6. Measuring-device module according to claim 5,
characterised in that
the first frame element (67) and/or the base frame can each be covered at its open sides by a cover plate (84, 85) to form an enclosed base element (65, 66).

7. Measuring-device module according to claim 6,
characterised in that
cooling-air apertures are formed in the cover plates (84, 85).

8. Measuring-device module according to claim 6 or 7,
characterised in that
the cover plate and/or the cover plates (84, 85) can be attached by at least one clip element (102) to the first frame element (67) and/or to the base frame, wherein the at least one a clip element (102) can be pushed into place from the essentially enclosed external periphery of the first frame element (67) and/or the base frame.

9. Measuring-device module according to claim 8,
characterised in that

several clip elements (102) distributed around the external periphery of the first frame element (67) and/or the base frame are provided.

10. Measuring-device module according to claim 8 or 9, **characterised in that**
the clip elements (102) provide locking projections (130) for fixing to the first frame element (67) and/or the base element, which engage with corresponding indentations (87.1 to 87.5) of the cover plates (84, 85).

11. Measuring-device module according to any one of claims 8 to 10,
characterised in that
at least one respective guide element (106) for guiding the measuring-device module laterally towards its plug-in direction is formed on a carrier surface (105) of the clip elements (102) partially enclosing the external periphery of the first frame element (67) and/or the base frame, which guide element (106) co-operates with a guide component (15) of the measuring device (1) to form a guide device.

12. Measuring-device module for a measuring device, wherein the measuring-device module (35, 36) comprises a plug-in contact element (55, 56) for the electrical connection of a plug-and-socket panel (11) of the measuring device (1) provided for data transfer,
characterised in that
the measuring-device module (35, 36) comprises a base element (66) with a first printed-circuit-

board space (80) for receiving a printed-circuit board (70) and with a second printed-circuit-board space (90).

13. Measuring-device module according to claim 12, **characterised in that** the base element (66) can be connected to a further base element (65), wherein the second printed-circuit-board space (90) of the base element (66) together with the second printed-circuit-board space of the further base element (65) forms a common, additional printed-circuit-board space (90').

14. Measuring-device module according to claim 13, **characterised in that** the main printed-circuit board (70) of the base element (66) is connected to the further main printed-circuit board of the further base element (65) via an electrical connection arranged in the additional printed-circuit-board space (90').

15. Measuring-device module according to any one of claims 12 to 14, **characterised in that** the second printed-circuit-board space (90) can be connected to a frame body (127) to form an additional printed-circuit-board space (90').

16. Measuring-device module according to any one of claims 12 to 15, **characterised in that** at least one spacing element (120, 126, 126') for adapting the measuring-device module (35, 36) to a

grid dimension of the measuring device (1) is arranged between the base element (66) and the further base element (65) or the base element 66 and the frame body (127).

17. Measuring-device module according to any one of claims 12 to 16,
characterised in that
at least one electrical connection element (88, 89) is provided, which is connected to the main printed-circuit board (70) or to an additional printed-circuit board in the second printed-circuit-board space (90) or in the additional printed-circuit-board space (90').

18. Measuring-device module according to any one of claims 12 to 17,
characterised in that
a connection carrier (98) with a further electrical connection (100) is provided at the end of a base element (66) disposed opposite to the second printed-circuit-board space (90).

19. Measuring device with plug-in measuring-device modules (35, 36), which are connected via a plug-and-socket panel (11) to an information-output device (9) at a front side of the measuring device (1), wherein the measuring-device modules (35, 36) can be plugged in from a rear side facing away from the information-output device,
characterised in that
a recess (5) is provided in the front side of the measuring device (1), through which an electrical connection (6), at least for a part of the plugged-

in measuring-device modules (35, 36), is accessible.

20. Measuring device according to claim 19, **characterised in that** at least a part of the measuring-device module (35, 36) provides electrical contacts (57, 57', 57'', 58, 130, 130''), which are accessible from the rear side of the measuring device (1).

21. Measuring device according to claim 19 or 20, **characterised in that** for each measuring-device module (35, 36) to be accommodated, at least one guide component (15) for the guidance of the measuring-device modules is provided, wherein the at least one guide component (15) provides a resilient, deformable guide element for the resilient mounting of the measuring-device module (35, 36).

22. Measuring device according to claim 21, **characterised in that** the guide components (15) for adjacent measuring-device modules (35, 36) are spaced at a distance such that a cooling-air gap is formed between adjacent measuring-device modules (35, 36).

23. Measuring device according to claim 21 or 22, **characterised in that** the resilient, deformable guide elements are formed by resilient tongues (14) arranged in a row.

24. Measuring device according to any one of claims 19 to 23,

characterised in that
the plug-and-socket panel (11) is mounted in such a manner that it can be displaced within a receiving device (10) in at least one plane perpendicular to the direction of insertion of the measuring-device modules (35, 36).

25. Measuring device according to any one of claims 19 to 24,
characterised in that,
in order to retain the measuring-device modules (35, 36), a rear cover (41) is provided for the measuring-device housing, which cover (41) has at least one recess (42), through which connections of the measuring-device modules (35, 36) orientated towards the rear of the housing are accessible.

26. Measuring device according to claim 25,
characterised in that
insertion elements (45) can be inserted into the cover of the measuring device housing (41) in order to cover the cooling-air gaps between the measuring-device modules (35, 36) and/or blank elements (37, 38).

27. Measuring device according to any one of claims 19 to 26,
characterised in that
each measuring-device module (35, 36) is formed as a functional unit, and that data can be transferred via a bus system either between various measuring-device modules (35, 36) or to the information-output device (9).

28. Measuring device according to claim 27,
characterised in that
the information-output device (9) is designed as an input/output device.

29. Measuring device according to claim 27 or 28,
characterised in that
at least one measuring-device module (35) is designed as a computer module for controlling data transfer via the bus system.

30. Measuring device according to any one of claims 27 to 29,
characterised in that
a plug-in power pack is provided, which is also connected to the plug-and-socket panel (11) via an electrical plug-connection (13), wherein the power supply to the measuring-device modules (35, 36) is provided via the bus system.